Cynthia L. Morris-Kukoski Page 1 of 12 October 31, 2023 CURRICULUM VITAE

Dr. Cynthia L. Morris-Kukoski, PharmD, DABAT, FAACT

Federal Bureau of Investigation



Office: (703) 632-7838; Fax: (703) 632-7411

PROFESSIONAL EXPERIENCE

Forensic Examiner Chemist (Toxicology)

May 2004 - present FBI Laboratory - Chemistry Unit

Duties include examination of evidence submitted to the FBI Chemistry Unit in criminal investigations in the area of toxicology and chemical identification. Responsible for inventorying evidence, using chemical extraction principles to isolate drugs and poisons from biological samples and food matrices, analyzing prepared extracts using analytical instrumentation, interpreting results of analyses, and providing interpretations of results in the form of written reports and oral testimony. Chemistry Unit Drug Procurement Program Manager (FY2011 – present) and Chemistry Unit Proficiency Testing Program Representative (FY2013 – present).

United States Navy (Reserve) LCDR MSC USNR

May 2004 - Sep 2018 Critical Care Clinical Pharmacist / Clinical Toxicologist

OHSU Portsmouth (c/a): Dec 2016-Sep 2018; OHSU San Diego: Dec 2015-Nov 2016 AOIC (Dec 2017 – Sep 2018); Fitrep Coordinator (2013- 2018). OHSU Portsmouth Detachment S/T/U: Apr 2005-Sep 2018 Naval Medical Center Portsmouth - Detachment S: Apr 2005 –Sep 2018 Navy Marine Corps Reserve Center (Little Creek, VA): Jan 2005 – Apr 2005 Inactive Ready Reserve: May 2004 – Jan 2005

United States Navy (Active Duty): LT MSC USNR

Jul 1998 - Apr 2004

<u>Biochemist/Toxicologist: Operations Officer, Assistant Technical Director</u>
Navy Drug Screening Lab Great Lakes Dec 2001- Apr 2004

Critical Care Clinical Pharmacist / Clinical Toxicologist – Clinical Division Officer
Naval Medical Center Portsmouth: Nov 1998- Nov 2001

Officer Candidate School: MSC USNR
Naval Station Newport RI: Sep 1998 - Nov 1998

CONTINUED PROFESSIONAL EXPERIENCE (prior to 1998 non-detailed, detailed upon request):

Registered Pharmacist (11/97-9/98) Highland Pharmacy Waterbury CT
Consulting Staff Toxicologist Emergency Medicine Dept (4/95-9/98) Hartford Hospital Hartford, CT
Registered Pharmacist (1/95-11/97) Baggish Apothecary West Hartford & Avon, CT
Critical Care Clinical Pharmacist Pharmacy Department (5/92-3/95) Hartford Hospital Hartford, CT
Certified Poison Information Specialist CT Poison Control Center (10/91-5/92) UCONN Farmington, CT
Registered Pharmacist (8/91-5/92) Walgreen's Pharmacy Brookfield, CT
Certified Poison Info Specialist MA Poison Control System (10/89-6/91) Children's Hospital Boston, MA

Cynthia L. Morris-Kukoski Page 2 of 12 October 31, 2023 CURRICULUM VITAE

EDUCATION

Massachusetts College of Pharmacy

1989-1991 Boston, Massachusetts Doctor of Pharmacy

Hennepin County Medical Center / Hennepin Regional Poison Center

1988 - 1989 Minneapolis, MN

Pharmacy Resident - Clinical Toxicology

Massachusetts College of Pharmacy

1983-1988 Boston, Massachusetts

Bachelor of Science Degree in Pharmacy

AWARDS AND HONORS

American Board of Applied Toxicology Exceptional Service Award - September 2019 (North American Academy of Clinical Toxicology Meeting in Nashville TN)

FBI Laboratory Annual Customer Service Award 2015 – September 2015 (Benzodiazepine, Zolpidem, Ketamine Hair Method)

FBI Laboratory Annual Award of Excellence 2014 - September 2014 (Cocaine Hair Research and Publication)

FBI Laboratory Chemistry Unit On the Spot Award: Feb 2020 (Acting TL 4/19 – 11/19), April 2018 (Navajo Nation case load), April 2017 (ABFT inspection), April 2016 (expedite case), May 2014 (Cocaine Hair Research Project), February 2013 (Proficiency testing program), May 2012 (Moot court assistance CBRNSU), April 2012 (Expedited case), December 2011 (Expedited intelligence matter), August 2011 (Method validation working group), July 2010 (Development/Validation metals analysis), April 2010 (Validation zolpidem hair analysis), April 2009 (Development/Validation salvia analysis), June 2009 (Munchausen-by-proxy case), December 2007 (Validation PGF2a analysis)

FBI Laboratory Chemistry Unit Time Off Award: Feb 2020 (2019 overseas US death cases). June 2017 (expedite case), Sept 2006 (Validation cocaine hair analysis)

Fellow American Academy of Clinical Toxicology - September 2011

Navy and Marine Corps Commendation Medal(s) – 15 March 2004, 10 June 2002 Navy and Marine Corps Achievement Medal (s) – 10 January 2004, 15 March 2001 Air Force Achievement Medal – 7 August 2003 Meritorious Unit Commendation – August 2000 Rho Chi National Honor Society - Doctor of Pharmacy Program Upjohn Clinical Pharmacy Research Award - Doctor of Pharmacy Program

BOARD CERTIFICATION

1996	Diplomate American Board of Applied Toxicology (DABAT) (re-credentialed every 5 years - present)
	A

1994 Credentialed ABAT Candidate (1994 – 1995)

1991 Registered Pharmacist State of Connecticut #7673 (1991 - 2020)

1988 Registered Pharmacist State of Massachusetts #20504 (renewed - present)

PROFESSIONAL AFFILIATION

Society of Forensic Toxicology (2006 – present)
The International Association of Forensic Toxicologists (2006-present)
American Academy of Clinical Toxicology (1991- present)

Cynthia L. Morris-Kukoski Page 3 of 12 October 31, 2023 CURRICULUM VITAE

Chicago Chromatography Discussion Group (2001-2004) American Association of Poison Control Centers (1989-2001) American Society of Hospital Pharmacists (1987-1991)

ACADEMIC APPOINTMENTS

Adjunct Faculty Hampton University School of Pharmacy (2001)
Clinical Preceptor Idaho State Non-traditional PharmD Program (2001)

Assistant Professor Medical College of Virginia School of Pharmacy (1998-2001)

Guest Speaker Old Dominion University: Physical Therapy Program (1998-2001)

Adjunct Clinical Assistant Professor Quinnipiac College Physicians Assistant Program (1996-1998)

Adjunct Faculty
Adjunct Faculty
Assistant Professor

Quinnipiac College Physicians Assistant Program (1994-1996)
Quinnipiac College Diagnostic Imaging Program (Spring 1994)
University of Connecticut School of Pharmacy (1992- Fall 1994)

ASHP Pharmacy Resident Clinical Preceptor: MICU (1994), Emergency Medicine (1993), SICU (1992)

Guest Speaker APRN degree program HH (1993-1994)

Guest Speaker

Guest Speaker

Tufts School of Dental Medicine (1990-1991, 1993-1994)

Simmons Graduate Nursing Program (1990-1991, 1993-1994)

University of Minnesota School of Pharmacy (1988-1989)

COMMITTEE APPOINTMENTS:

US Pharmacopeia

2013 – 2015 Intentional Adulteration of Dietary Supplements with Drugs Expert Panel

American Academy of Clinical Toxicology:

2014 – 2018 ABAT Advisory Committee

2008 – 2014 ABAT Past President (2012-2014), ABAT President (2010-2012), ABAT President Elect (2008-2010)

2002 - 2014 ABAT Board of Directors

2000 - 2016AACT Forensic (Medico-legal) Special Interest Group

FDA Advisory Board Meeting (Temporary Voting Member):

2010 Opiates REM (7/22-7/23/10), Sodium Oxybate (8/20/10), Dextromethorphan (9/14/10),

Abuse deterrent program SR opiate products (10/21-10/22/10)

PROFESSIONAL TRAINING:

2023	ACMT	Virtual	Chemical	Agents of	Opportunity	/ for	Terrorism	(Aua 30)

- 2023 Orbitrap ID-X Thermo Fisher Scientific Course (Sep 12-14)
- 2023 CFSRE Webinar (5 part series): The Intersection of Forensic Toxicology and Forensic Pathology Relating to Emerging Topics in Drug Death Certification (Apr 26, May 2, May 16, May 24, Jun 14)
- 2022 Law: Can anything be done to make a century-old drug more affordable. UCONN Online CE Program (Dec 29)
- 2022 ACMT Virtual Total Tox Course (Nov 4, 11, and 18)
- 2021 NAACT Meeting Virtual (Oct 16 18)
- 2021 ACMT Pre-symposium Virtual (Oct 14)
- 2021 Law: State and Federal Actions in Disasters: Who's on First UCONN Online CE Program (Dec 30)
- 2021 Law: When a Crisis Meets a Crisis: Has the Pandemic Affected Drug Overdose Deaths UCONN Online CE Program (Dec 29)
- 2020 ACMT Covid 19 Web Series
- 2020 NAACT Meeting Virtual (Sep 12-14)

Cynthia L. Morris-Kukoski Page 4 of 12 October 31, 2023 CURRICULUM VITAE

```
2020
       The Science of Wellbeing Yale University Coursera Course
2019
       Law: Prescription for Murder UCONN Online CE Program (Dec 31)
2019
       The Mediterranean Diet Effects on Health. UCONN Online CE Program (Dec 31)
2019
       NAACT Meeting in Nashville, TN (Sept 23-27)
2018
       Law: Marijuana's Expanding Legality, Pot's Precarious Position. UCONN Online CE Program (Dec 26)
2018
       NAACT Meeting in Chicago, ILL (Oct 15-29)
2018
       SOFT Meeting in Boca Raton, FLA (Jan 7-11; rescheduled 2017 meeting Sept 9-14)
2017
       NAACT Meeting in Vancouver Canada (Oct 11-15)
2016
       NAACT Meeting in Boston, MA (Sept 12-16)
2015
       NAACT Meeting in San Francisco, CA (Oct 8-12)
2014
       SOFT Meeting in Grand Rapids, MI (Oct 22 – 24)
2014
       NACCT Meeting in New Orleans, LA (Oct 17-21)
       ICP-MS Training by Thermo Fisher Scientific for the FBI Laboratory, Feb 4-6 (Quantico, VA)
2014
2013
       NAACT Meeting in Atlanta, Georgia (Sept 25 – Oct 2)
2013
       APHL Webinar on Acetyl Fentanyl (July 17)
2013
       FBI Brown Bag Seminar on Alcohol Blackout by Dr. Aaron White for the FBI Laboratory, June 27
       (Quantico, VA)
2013
       Legal Training for Chemists by Atty. Paula Wulff for the FBI Laboratory, Jan 15 (Quantico, VA)
2013
       Acquity UPLC Training Class by Waters for the FBI Laboratory, Jul 29 - Aug 1 (Quantico, VA)
       NACCT Meeting in Las Vegas, NV (Oct 1 - 6)
2012
2012
       SOFT Meeting in Boston, MA (July 3-6)
2011
       NACCT Meeting in Washington DC (September 21-26)
2011
       ACMT-SOFT Seminars in Forensic Tox. Stimulant Spring Conference, May9-10 (Arlington, VA)
2010
       SOFT Meeting in Richmond VA (Oct 18 and Oct 20)
2010
       NACCT Meeting in Denver Colorado (Oct 6-12)
2010
       CDC Amanita and OP methods for the FBI Laboratory, 9/17/10 (Quantico, VA)
2010
       LC-ICP-MS Arsenic by Perkin Elmer for FBI Laboratory Chemistry Unit, 7/20-7/22/10 (Quantico, VA)
2010
       Resources for Staff Management, 06/09/10 (FBI ERF Quantico, VA)
2010
       Hair Testing, Psychemedics, 2/22-2/25 (Los Angeles, CA)
2009
       ICP/MS Training, Perkin Elmer, 12/15-17 (Quantico, VA)
2009
       SOFT Meeting in Oklahoma City OK (Oct 19-23)
2009
       NAACT Meeting in San Antonio TX (Sept 21-26)
2009
       Thermo Finnigan LTQ Training for FBI Laboratory Chemistry Unit (Quantico, VA)
2009
       Postmortem Decomp Lecture from the FBI Research Unit (Quantico, VA)
2009
       Thermo Orbitrap Training for FBI Laboratory Chemistry Unit (Quantico, VA)
2009
       Agilent GC/MS with deconvolution training for FBI Laboratory Chemistry Unit (Quantico, VA)
2008
       NACCT Meeting in Toronto Ontario Canada (Sept 11-16)
2007
       NACCT Meeting in New Orleans, LA (Oct 20-24)
2007
       SOFT Meeting in Raleigh-Durham, NC (Oct 15-19)
       American Academy of Forensic Sciences 59th Annual Meeting in San Antonio, TX (Feb 16-24)
2007
2007
       Liquid Chromatography-Mass Spectrometry Primer. Applied Biosystems. AAFS (San Antonio, TX)
2006
       NAACT Meeting in San Francisco CA (Oct 4-9)
2006
       DoD Training CBRNE Training Course (Navy Knowledge Online)
2006
       FBI Training: WMD, QA Systems, TEDAC, Uncertainty, Legal. FBI (Quantico, VA)
2005
       NACCT Meeting in Orlando Florida (Sept 9-14)
       SOFT Meeting in Nashville, Tennessee (Oct 17-21)
2005
2005
       HPLC Operation and Troubleshooting. Waters Corporation (Quantico, VA)
2004
       NACCT Meeting in Seattle Washington (Sept 9-14)
2004
       SOFT, TIAFT Meeting in Washington, DC (Aug 28-Sep3)
2004
       Basic Q-TOF Theory and Operation. Waters Corporation (Quantico, VA)
2004
       Infrared Spectrometry for Trace Analysis. FBI Academy (Quantico, VA)
2004
       Basic Principles of Pharmacology and Forensic Toxicology, Poisons & Poisoners. FBI Chemistry Unit
       (Quantico, VA)
```

- 2004 GCT Training. Waters Corporation (Quantico, VA)
- 2004 Advanced Mass Spectrometry Theory and Interpretation. FBI Symposium (Washington D.C.)
- 2004 Poisons & Poisoners What a Toxicologist Needs to Know. FBI Symposium (Washington D.C.)
- 2004 *Trace Analysis Seminar*. Waters Corporation (Triangle, VA)

Cynthia L. Morris-Kukoski Page 5 of 12 October 31, 2023 CURRICULUM VITAE

- 2004 ECL Training. Bioveris (Quantico, VA)
- 2003 NACCT Meeting in Chicago, Illinois (Sept 4-9)
- 2003 SOFT Meeting in Portland, Oregon (Oct 20-24)
- 2003 *GC: Fundamentals, Troubleshooting, and Methods Development (lecture-lab course)*. American Chemical Society (Axion Analytical Lab Chicago, IL)
- 2003 Fundamentals and Interpretation of KIMS, CEDIA, and DRI Immunoassay Kits on Hitachi Analyzer. Roche Diagnostics. (Navy Drug Screening Laboratory Great Lakes, IL)
- 2002 NACCT Meeting in Palm Springs, California (Sept 24-29)
- 2002 Hazardous Waste Generators/Handlers Course. ALMC/CECOS (Great Lakes, IL)
- 2002 Introductory Course in Gas Chromatography (lecture-lab course). Chicago Chromatography Discussion Group (Roosevelt University Schaumburg, IL)
- 2001 NACCT Meeting in Montreal Quebec Canada (Oct 4-9)
- 2001 ACMT Pre-meeting Symposium: The Cutting Edge of Clinical Toxicology. ACCT Annual Meeting (Montreal Canada)
- 2001 Expert Witness Symposium. NEHC/NDSL/NLSO (Navy Environmental Health Center Norfolk, VA)
- 1999 AACT Pre-meeting Symposium: Forensic Toxicology. AACT Annual Meeting (LaJolla, CA)
- 1999 AACT Pre-meeting Symposium: Environmental Toxicology: Metals & Fires. AACT Annual Meeting (LaJolla, CA)
- 1997 ACMT Pre-meeting Symposium: Alternative Medicines in Toxicology. AACT Annual Meeting (St Louis, MO)

(Continuing Education and Other Professional Training prior to 2001 meetings available upon request.)

PRESENTATIONS

- 2019 "Forensic Tox Issues Related to Drug Facilitated Sexual Assault" at ACMT Seminar in Forensic Toxicology Winter Conference
- 2018 "Drug Facilitated Crimes in the 21st Century: Case Studies" at SOFT Annual Meeting, Workshop W#11. "Forensic Toxicology Applications at the FBI Laboratory; In the Cross Hairs with Forensic Toxicology and Hair Analysis" at SOFT Annual Meeting, Workshop W#10
- 2014 "Utility of a Cocaine Extended Wash Kinetics Calculation on Extensively Washed Drug Chemists' Hair" at SOFT Annual Meeting
 - "The Major Significance of Minor Cocaine Metabolites (Aryl Hydroxycocaine) in Cocaine Users' Hair at SOFT Annual Meeting
- 2012 "Drug Facilitated Sexual Assault" for Indian Health Services, Nashville, TN "Drug Facilitated Sexual Assault" for Indian Health Services, Albuquerque, NM
- 2011 "Pharmacokinetics, Pharmacodynamics, and Analytical Detection of Synthetic Congeners" ABAT Symposium AACT Annual Meeting
 - "FBI Laboratory and Complicated Forensics" at ACMT Pre-meeting Symposium, AACT Annual Meeting
 - "Pharmacokinetics of Amphetamines and Analogs" for ACMT-SOFT Seminars in Forensic Toxicology Stimulant Spring Conference
 - "Analytical Techniques for Stimulant Detection" for ACMT-SOFT Seminars in Forensic Toxicology Stimulant Spring Conference
- 2010 "Drug Facilitated Sexual Assault" for 22nd Annual John R Teggatz Forensic Science Seminar
 - "Drug Facilitated Sexual Assault Benzodiazepine and Hypnotics (Z-drugs) DFSA Applications and interpretations workshop 5" for SOFT Annual Meeting
 - "When the drug and poison information is the forensic evidence" for EAD Louise E Grever monthly FBI Laboratory briefings
 - "FBI Laboratory" for FBI Citizens Academy Minneapolis Section
 - "DFSA Forensic Toxicology Lectures" for Ohio State Attorney's Office of Crime Victims Assistance and Prevention Program (three four-hour seminars)

Cynthia L. Morris-Kukoski Page 6 of 12 October 31, 2023 CURRICULUM VITAE

- 2009 "What are the differences between clinical and forensic toxicology. How are we dealing with both" for IADTM 2009 Annual Meeting Montreal Canada, Clinical/Forensic Workshop
 - "WMD Symposium What do you mean I have the evidence" for NAACR Annual Meeting WMD Symposium
 - "A Primer on Antemortem and Postmortem Fentanyl" for NAACT Annual Meeting Forensic Symposium "Forensic Toxicology" for Drexel University College of Medicine
- 2008 "Medico-legal Interpretation of Ethanol" for NAACT Annual Meeting Forensic Symposium "DFSA" lecture for Maryland Coalition
 - "Forensic Toxicology" for AFIP Spring Conference at Annapolis MD
 - ""Mass Spectrometry and Forensic Toxicology" for FBIAcademy Mass Spectrometry 2008 School
- 2007 "Forensic Chemistry and Toxicology" for Virginia Beach Honors Chemistry Students at the FBI Academy December 2007
 - "GHB and Analogs Workshop #5: Toxicological Analysis of Drug-Facilitated Crimes for Dummies ... And Smarties, Too" for SOFT Annual Meeting
 - "Mass Spectrometry and Forensic Toxicology" for FBIAcademy Mass Spectrometry 2007 School
 - "DFSA Forensic Toxicology Lecture" for NEHC/DoD SART Course Spring 2007
 - "Forensic Toxicology" for West Virginia University Chemistry Department, Graduate School.
 - "Gamma Hydroxybutyrate (GHB) and Analogs." American Academy of Forensic Science Annual Meeting February 16-24, 2007San Antonio TX Workshop #24 Finding the Needle in the Haystack: Improving the Toxicology Investigation of Drug Facilitated Sexual Assault and Other Crimes.
- 2006 "Sexual Assault, Drug Facilitated Sexual Assault "for Navy Marine Corps General Military Training (NMCP Det T/U).
 - "Interpretation of drug screens what do the results really mean" AACT/CAPCC/IAPCC International Annual Meeting Oct 4-9 San Francisco CA.
 - "Medico-legal use of hair analysis for drug facilitated sexual assault cases" AACT/CAPCC/IAPCC International Annual Meeting Oct 4-9 San Francisco CA.
 - "Drug Facilitated Sexual Assault and Forensic Drug Testing" Judge Advocate General School Charlottesville VA.
 - "Drug and Alcohol Abuse" for Navy Marine Corps General Military Training (NMCP Det T/U).
- Abstract #P13: "Ethanol Analysis from Biological Samples by Dual Arm Robotic Sampler" Society of Forensic Toxicology Annual Meeting Oct 17-21, 2005 Nashville TN.
 Navy Marine Corps General Military Training (NMRC Little Creek) Drug and Alcohol Abuse
- 2004 NDSL Confirmation Dept Educational Series (2002-2004)
 NDSL Administration Dept Educational Series (2002-2004)
- 2002 "Treating Victims from Weapons of Mass Destruction" for Illinois Council of Health-System Pharmacists 2002 Midyear Meeting, Urbana IL
- 2001 "General management of the poisoned patient and Clinical Toxicokinetics" for Naval Medical Center Portsmouth (NMCP) ICU Residents/Interns Lecture Series
 - "Designer Drugs in the Military: A Focus on Ecstasy" for Combined Forces Pharmacy Convention 2001. Orlando Florida
 - "Drugs of Abuse: A walk thru the streets" for Addiction Rehabilitation Services Department, Naval Operation Base Norfolk
 - "AACT ABAT Symposium: The Relationship of Toxicological Mechanisms to Clinical Effects"
 Moderator for NACCT 2001 Annual Meeting, Montreal Canada
 - "AACT Adversarial Positions in Medico-legal Toxicology" for AACT Forensic Toxicology Interest Group Educational Series, North American Congress of Clinical Toxicology (NACCT) 2001 Annual Meeting, Montreal Canada
 - "Cardio-pulmonary rehabilitation: pharmacology" for Cardiac Rehab Patients
 - "DAPA Ecstasy and other Drugs of Abuse Briefing" for:
 - Boone Branch Medical Clinic Personnel, Amphib Base

Cynthia L. Morris-Kukoski Page 7 of 12 October 31, 2023 CURRICULUM VITAE

> Yorktown Branch Medical Clinic Personnel, Naval Weapons Station Northwest Branch Medical Clinic Personnel, Naval Security Group Schoolhouse Students, Naval School of Health Sciences Staff Education and Training Department, Naval Medical Center Portsmouth Addiction Rehabilitation Services Department, Naval Operation Base Norfolk Security Department, Naval Medical Center Portsmouth Command Hospital Staff, Naval Medical Center Portsmouth Surgical Nurses and Hospital Corpsman, Naval Medical Center Portsmouth

"Drugs of Abuse: A Focus on Ecstasy" for Internal Medicine Noon Conference, NMCP
"Ecstasy and other Drugs of Abuse Briefing" for Pharmacy Department Technicians, NMCP
"Forensic Toxicology: Drugs of Abuse" for Judge Advocate General Appellate Defense Field
Update: Current Issues in Urinalysis Cases, NLSO Southeast, Jacksonville Florida

2000 "General management of the poisoned patient" for:

NMCP ICU Residents/Interns Lecture Series

NMCP Critical Care Nursing Program

NMCP Pediatric Intensive Care Unit Staff

"Clinical Pharmacokinetics/Toxicokinetics" for NMCP ICU Residents/Interns Lecture Series

"Cardio-pulmonary rehabilitation: pharmacology" for Cardiac Rehab Patients

"Alcohol withdrawal: assessment, use of CIWA scale, and treatment" for Critical Care Nursing Staff

Abstract #181: "Insulin "euglycemia" therapy for accidental nifedipine overdose" for North

American Congress of Clinical Toxicology Annual Meeting, Sept.13-18, 2000, Tucson, Az.

"Ocular effects of drug abuse" for NMCP Emergency Medicine Department

"Forensic Toxicology: Drugs of Abuse" for Judge Advocate General Prosecutor's at Norfolk Navy Legal Service Office

"Clinical Pharmacokinetics/Toxicokinetics" for NMCP ICU Residents/Interns Lecture Series

"Treatment of methanol overdose" for NMCP Pediatric Morning Report

"Role of high dose insulin, D50 for calcium channel blocker overdose" for NMCP Pediatric Morning Report.

"Anti-arrhythmic series: lidocaine" for NMCP Critical Care Nurses & Corpsmen

1999 "Clinical Pharmacokinetics" for NMCP ICU Residents/Interns Lecture Series
"General management of the poisoned patient" for NMCP ICU Residents/Interns Lecture Series

"Tricyclic antidepressant overdose" for NMCP Emergency Medicine Department

1997 "Current toxicological antidotes" for Connecticut Society of Hospital Pharmacists (CSHP) Continuing Education Program

1995 "Acute toxicologic emergencies - a focus on tricyclic antidepressants, methanol, ethylene glycol, and salicylate toxicity" for CSHP Continuing Education Program

"Drug analysis and forensic toxicology" (guest lecturer for Prof. T. Palmbach) for CJ 215: Intro to Forensic Science at the University of New Haven

1994 "Pharmacology of drugs used during advanced cardiac life support" for Hartford Hospital (HH) Advanced Cardiac Life Support Providers

"Controversies of salicylate overdoses - review of a case fatality" for the Connecticut State Poison Center Advisory Board

"General Management of the poisoned patient" for CSHP 'Catch the Wave Symposium'

"Acetaminophen overdoses" for HH MICU M&M's

"Salicylate overdoses" for HH MICU M&M's

"Tegretol pharmacokinetics" for HH Decentralized Pharmacist lecture series

"Treatment of alcohol withdrawal" for HH MICU M&M's

"4-aminopyridine toxicity" for Hartford Toxicology Rounds

"Imipenem induced seizures" for HH Decentralized Pharmacist lecture series

"The role of sedatives and narcotics" for the HH Department of Radiology

"Use of phenytoin in alcohol withdrawal seizures" for Pharm.D. journal club

"Tricyclic antidepressant overdoses" for HH MICU M&M's

Cynthia L. Morris-Kukoski Page 8 of 12 October 31, 2023 CURRICULUM VITAE

- "Heparin reversal with protamine; review of protamine, labs tests (PTT,ACT,TT), heparin adverse effects" for HH MICU M&M's
- "Phenothiazine: Qt dispersion and torsades de pointe" for HH Decentralized Pharmacist lecture series
- "Review of neuromuscular blocking agents (atracurium, vecuronium, pancuronium)" for HH Decentralized Pharmacist lecture series
- "Current MICU question's: interpretation of anion gap / osmolar gap, ethylene glycol and methanol toxicity, the role of ethanol drips in ethylene glycol and methanol toxicity" for HH MICU RN's
- "Interpretation of anion gap, osmolar gap; ethylene glycol and methanol toxicity" for HH MICU M&M's
- "The role of ethanol drips in ethylene glycol and methanol toxicity" for HH Decentralized Pharmacist lecture series "Ethylene glycol toxicity" for HH Toxicology rounds
- 1993 "Acute and chronic acetaminophen toxicity a review of n-acetylcysteine guidelines" for HH

 Decentralized Pharmacist lecture series
 - "Malignant hyperthermia vs. neuroleptic malignant syndrome" for HH MICU M&M's
 - "Withdrawal symptoms and treatment from drugs of abuse (opiates, benzodiazepines, and sedativehypnotics)" for HH Decentralized Pharmacist lecture series
 - "Treatment of mushroom poisoning" for HH MICU M&M's
 - "Treatment of naltrexone overdose after chronic heroin abuse" for HH Toxicology rounds
 - "Tetanus: a review of its pathophysiology and treatment" for HH MICU housestaff
 - "Naltrexone overdose after chronic heroin abuse" for HH MICU M&M's
 - "Clinical Toxicology" for Quinnipiac College Medical Laboratory Technicians Pharmacology course
 - "Naltrexone overdose after chronic heroin abuse" for HH Decentralized Pharmacist lecture series
 - "Beta blocker overdose and the role of glucagon" for HH MICU M&M's
 - "A review of warfarin and the coumadin protocol" for HH Cardiology Nursing
 - "Treatment of the tetanus patient" for HH Decentralized Pharmacist lecture series
 - "Glucagon use, dosing, and admixture" for HH Decentralized Pharmacist lecture series
 - "Pentobarbital coma" for HH Neurosurgical ICU Nurses
 - "Buprenex inservice" for HH MICU Nurses
 - "A review of cyanide toxicity (a case of a renal failure patient treated concomitantly with sodium nitroprusside and sodium thiosulfate)" for SICU Grand Rounds
 - "Theophylline toxicity, acute vs chronic" for HH Decentralized Pharmacist lecture series
 - "Acetaminophen toxicity and treatment; general decontamination of the toxic patient" for HH

 Decentralized Pharmacist lecture series
 - "Drug induced thrombocytopenia" for HH Decentralized Pharmacist lecture series
 - "Drug fever" for HH Decentralized Pharmacist lecture series
 - "Digoxin toxicity and the use of digibind" for HH MICU M & M's
 - "Clozaril" for HH Decentralized Pharmacist lecture series
 - "Sedation and agitation" for HH SICU Grand Rounds
 - "Pentobarbital coma and toxicity" for HH Decentralized Pharmacist lecture series
 - "Sodium nitroprusside therapy and stress ulcer prophylaxis" for HH SICU Housestaff
 - "CHF / cardiovascular drugs and pressors" for HH CCN training lecture
 - "Clinical toxicology" for HH APRN Pharmacology Course
 - "Review of neuromuscular blocking agents" for HH MICU M & M's
- 1992 "Is there a role for alprostadil in acetaminophen overdose; 2 patients (MICU,SICU) reviewed" for HH
 Toxicology Rounds
 - "Tricyclic antidepressant overdose treatment / management" for HH MICU M & M's
 - "A Case of pediatric asthma and the new physician (focus on theophylline use and acute/chronic toxicity)" for Continuing Professional Pharmacy Education CE Conference
 - "Use of sodium thiosulfate in sodium nitroprusside therapy" for HH SICU Housestaff
 - "Zoloft overdose" for HH Toxicology Rounds
 - "Reversal of dilaudid and versed with narcan and flumazenil" for HH MICU M & M's
 - "History & role of poison centers in the U.S., focus on CT poison center" for HH Tox Rounds
 - "Treatment of the unknown toxic patient" for HH MICU Housestaff
 - "Sedation/agitation & the role of neuromuscular blockers" for HH MICU Housestaff
 - "A Study: on the feasibility of solid n-acetylcysteine dosage form for the treatment of acetaminophen toxicity" for HH Toxicology Rounds

Cynthia L. Morris-Kukoski Page 9 of 12 October 31, 2023 CURRICULUM VITAE

- "Compliance and side effects of n-Acetylcysteine therapy" for Children's Hospital Emergency Physicians and Mass Poison Control System Consultants
- "N-Acetylcysteine research update" for Zambon Laboratories
 "Clinical toxicology review" for Simmons Nursing School, Graduate Nursing Students
 "Clinical toxicology & toxicologic emergencies" for Tufts Dental School, 2nd yr dental students
- 1989 "Phenothiazine / monoamine oxidase inhibitors" for Clinical Toxicology (Phar 5-306) University of Minnesota PharmD students
 - "General management of the toxic patient" for Hennepin County EMS training course (repeated lecture)
 - "Drugs of Abuse" for Hennepin County EMS training course (repeated lecture)
 - "Ocular findings of drug abuse" for Hennepin County Emergency Medicine Educational Conference
- "General management of the toxic patient" for Hennepin County EMS training course (repeated lecture)
 "Drugs of Abuse" for Hennepin County EMS training course (repeated lecture)
 - "General treatment and toxicity of drugs of abuse" for Emergency Medical Services/Paramedics/Airport Fire Department
 - "Drug overview medications that the foster parent frequently encounters (anticonvulsants, stimulants, antidepressants, antipsychotics)" for the Foster Care Center of Minnesota
- "Measuring the perception and knowledge of the elderly concerning appropriate use of generic drugs" Poster session for American Society of Hospital Pharmacists (ASHP) 22nd Annual Midyear Clinical Meeting, Atlanta, GA, December 1987

PUBLICATIONS

- Gorman S, Morris-Kukoski CL (ABAT editors) Rx Prep 2017 Toxicology & Antidotes Chapter
- Gorman S, Morris-Kukoski CL (ABAT editors) Rx Prep 2016 Toxicology & Antidotes Chapter
- Gorman S, Morris-Kukoski CL (ABAT editors) Rx Prep 2015 Toxicology & Antidotes Chapter
- Morris-Kukoski CL, Montgomery MA, Hammer RL: Analysis of Extensively Washed Hair from Cocaine Users and Drug Chemists to Establish New Reporting Criteria. JAT 2014; 38(9): 628 636.
- Morris-Kukoski CL, Montgomery MA, Hammer RL: Utility of a Cocaine Extended Wash Kinetics Calculation on Extensively Washed Drug Chemists' Hair" at SOFT Annual Meeting Oct 22-24, 2014 Grand Rapids MI Abstract #S42
- Morris-Kukoski CL, Montgomery MA, Hammer RL: "The Major Significance of Minor Cocaine Metabolites (Aryl Hydroxycocaine) in Cocaine Users' Hair at SOFT Annual Meeting Oct 22-24, 2014 Grand Rapids MI Abstract #S43
- Morris-Kukoski CL, Jagerdeo EJ: Hair Analysis for Zolpidem by Liquid Chromatography/Tandem Mass Spectrometry. Society of Forensic Toxicology (SOFT) Annual Meeting Jul 3 6, 2012 Boston MA Abstract #P54.
- Morris-Kukoski CL, Schaff J: Drug-Facilitated Sexual Assault Drug Metabolites the need for production and identification. Society of Forensic Toxicology (SOFT) Annual Meeting Jul 3 6, 2012 Boston MA Abstract #P55.
- Morris-Kukoski CL, Schaff J, Reda LJ Benzodiazepines and metabolites from biological fluids by liquid chromatography electrospray tandem mass spectrometry. Text book chapter 4 in LC-MS in Drug Analysis: Methods and Protocols, Humana Press 2012

Cynthia L. Morris-Kukoski Page 10 of 12 October 31, 2023 CURRICULUM VITAE

- (Editor for) Barceleaux Donald G, Palmer Robert B: Marijuana and the Hemp Plant Text book chapter in Medical Toxicology of Drug Abuse, John Wiley & Sons, Inc..
- Montgomery MA, Morris-Kukoski CL, LeBeau MA, Schaff J: The Uncertainty in segmental analysis of hair for cocaine and benzoylecgonine. Society of Forensic Toxicology (SOFT) Annual Meeting Oct18-22, 2010 Richmond VA Abstract # P43.
- Montgomery MA, LeBeau MA, Morris-Kukoski CL, Schaff J: Measurement uncertainty in quantitative segmental analysis of hair for amphetamine and methamphetamine. Society of Forensic Toxicology (SOFT) Annual Meeting Oct18-22, 2010 Richmond VA Abstract # S35.
- LeBeau MA, Montgomery MA, Morris-Kukoski CL, Schaff J: Measurement Uncertainty in quantitative segmental analysis of hair for cocaine and benzoylecgonine. TIAFT Annual Meeting August 29 Sept 2, 2010 Bonn Germany Poster P-127
- Montgomery MA, LeBeau MA, Morris-Kukoski CL, Schaff J Measurement uncertainty in quantitative segmental analysis of hair for amphetamine and methamphetamine. TIAFT Annual Meeting August 29 Sept 2, 2010 Bonn Germany Presentation O-20
- Wong SH, Happy C, Blinka D, Gock S, Jentzen JM, Donald JM, Coleman H, Jortani SA, Morris-Kukoski CL, Neuman M, Sander TL, Wagner MA, Wynn JR, Wu A: From Personalized Medicine to Personalized Justice Assembling the Framework with Pharmacogenomics and Assessing its Applicability to the Justice System. Pharmacogenomic 2010:11(6):731-7.
- Morris-Kukoski CL, Jagerdeo E, Schaff JE, LeBeau MA: Ethanol analysis from biological samples by dual rail robotic autosampler. J Chromatogr B Analyst Technol Biomed Life Sci 2007 May 1; 850(1-2):230-5. Epub 2007 Jan 16
- LeBeau MA, Montgomery MA, Morris-Kukoski C, Schaff JE, Deakin A: Further evidence of in vitro production of gamma-hydroxybutyrate (GHB) in urine samples. Forensic Sci Int 2007 July 4; 169(2-3):152-6. Epub 2006 Oct 9.
- LeBeau MA, Montgomery MA, Morris-Kukoski C, Schaff JE, Deakin A, Levin B: A comprehensive study on the variations in urinary concentrations of endogenous gamma-hydroxybutyrate (GHB). J Anal Toxicol, 2006; 30(2):98-105.
- Schaff JE, Deakin A, Karas RP, LeBeau ML, Montgomery M, Morris-Kukoski CL: The Investigation of Cases of Commercial Product Tampering. Society of Forensic Toxicology (SOFT) Annual Meeting Oct 3-7, 2006Austin TX Abstract # P58.
- Jamerson MH, Welton RW, Morris-Kukoski CL, Klette KL: Rapid Quantification of Urinary 11-nor-∆9-Tetrahydrocannabinol-9-Carboxylic Acid using Fast Gas Chromatography JAT 2005; 29(7):664-668.
- Klette KL, Jamerson MH, Morris-Kukoski CL, Kettle AR, Snyder JJ: Rapid Simultaneous Determination of Amphetamine, Methamphetamine, 3,4-Methylenedioxyamphetamine, 3,4-Methylenedioxymethamphetamine, and 3,4-Methylenedioxyethylamphetamine in Urine by Fast Gas Chromatography Mass Spectrometry. JAT 2005; 29(7):669-674.
- LeBeau MA, Montgomery MA, Morris-Kukoski CL, Schaff JE, Deakin A: Variations in Urinary Concentrations of Endogenous Gamma-Hydroxybutyrate (GHB) TIAFT 2005 Abstract for National Institute of Scientific Investigation Symposium on Forensic Toxicology & the International Association of Forensic Toxicologists 43rd International Meeting, Aug 29 Sep 2, 2005, Seoul Korea.
- Schaff JE, Montgomery MA, Morris-Kukoski CL: Validation of Commercial ELISA Immunoassay kits beyond manufacturer specifications. Society of Forensic Toxicology (SOFT) Annual Meeting Oct 17-21, 2005NashvilleTN Abstract # P11.

Cynthia L. Morris-Kukoski Page 11 of 12 October 31, 2023 CURRICULUM VITAE

- Morris-Kukoski CL, Jagerdeo E, Schaff JE, LeBeau MA: Ethanol Analysis from Biological Samples by Dual Arm Robotic Sampler SOFT Annual Meeting Oct 17-21, 2005NashvilleTN Abstract # P13.
- Jamerson MH, Welton RW, Morris-Kukoski CL, Klette KL: Rapid Quantification of Urinary 11-nor-∆9-Tetrahydrocannabinol-9-Carboxylic Acid using Fast Gas Chromatography SOFT Annual Meeting Oct 17-21, 2005 Nashville TN Abstract #S15.
- Klette KL, Jamerson MH, Morris-Kukoski CL, Kettle AR, Snyder JJ: Rapid Simultaneous Determination of Amphetamine, Methamphetamine, 3,4-Methylenedioxyamphetamine, 3,4-Methylenedioxymethamphetamine, and 3,4-Methylenedioxyethylamphetamine in Urine by Fast Gas Chromatography Mass Spectrometry SOFT Annual Meeting Oct 17-21, 2005NashvilleTN Abstract # S14.
- Morris-Kukoski CL (Editorial Book Review) of "Riot Control Agents" for J Forensic Sci 2005; 50(3):750.
- Biswas AK, Zabrocki LA, Morris-Kukoski CL: Near-fatal asthma associated with elevated levels of s-albuterol. Critical Care Medicine 2004 Suppl Dec Abstract # 630 (out in Dec 2004).
- Morris-Kukoski CL: Gamma-hydroxybutyrate (GHB): Bridging the clinical-analytical gap. J. Toxicol. Rev. 2004; 23(1):33-43.
- Biswas AK, Zabrocki L, Mays K, Morris-Kukoski CL: Cardiotoxicity associated with intentional ziprasidone and bupropion overdose. J Toxicol-Clinical Toxicol 2003; 41(1):79-82 and 101-4.
- Egland AG, Morris-Kukoski CL: Deadly in a single dose. Emedicine.com, pediatric/toxicology section (June 2001).
- Betts LS, Muller J, Morris-Kukoski CL: Reproductive and Developmental Hazards in the Workplace: A Guide for Occupational Health Professionals (for BUMED).
- Morris-Kukoski CL, Biswas AK, Parra M, Smith C: Insulin "Euglycemia" Therapy for Accidental Nifedipine Overdose. J Toxicol-Clinical Toxicol 2000; 38(5): Abstract #181, 577.
- Morris-Kukoski CL, Betts LS, Muller J: Chapter on "Poisoning, Drug Abuse, and Hazardous Material (hazmat) Exposure" in Navy Training Manual (Hospital Corpsman 3, 2, &1, revised 2000; NAVEDTRA 12583.
- Dwyer M, Morris CL: Toxicity of Sodium Nitroprusside. Connecticut Medicine 1993; 57(7):489-92.
- Dwyer M, Morris CL: Use of sodium thiosulfate during sodium nitroprusside therapy. HH Drug Information Update January-February 1993; 9(1).
- (Editor for) Shader RI, Greenblatt DJ: Acute interactions of Buprenorphine with IV cocaine and morphine: an IND phase I safety evaluation. J Clin Psychopharm 1993;
- Bond GR, Krenzelok EP, Morris CL, et al: The influence of time until emesis on the efficacy of decontamination using acetaminophen as a marker in a pediatric population. Ann Emerg Med 1993; 22(9):1403-7.
- Bond GR, Krenzelok EP, Morris CL, et al: Acetaminophen ingestion in childhood: strategies to manage more cost effectively. Pediatrics publication pending.
- Morris CL: Torsemide: a new, potent, high ceiling loop diuretic. Hospital Pharmacy 1992; 27(12):1167-1177.
- Shannon M, Wernovsky G, Morris CL: Exchange transfusion in the treatment of severe theophylline poisoning. Pediatrics January 1992; 89(1):145-147.
- Shannon M, Wernovsky G, Morris CL: Exchange transfusion in the treatment of severe theophylline poisoning (Abstract 11). Vet Human Toxicol 1991; 33(4):354.

Cynthia L. Morris-Kukoski Page 12 of 12 October 31, 2023 CURRICULUM VITAE

- Bond GR, Requda RK, Normann SA, Morris CL, et al: Influence of time until emesis on the efficacy of decontamination using acetaminophen as a marker in a pediatric population (Abstract 26). Vet Human Toxicol 1989;31:336.
- Morris CL: Deet toxicity: Topics Professional Education Bulletin, Hennepin Regional Poison Center spring 1991.
- Morris CL: Alluring peril: Minnesota's toxic splendor. Topics Professional Education Bulletin, Hennepin Regional Poison Center, spring 1989; 3(2).
- Morris CL: Holiday hazards. Hennepin County Medical Center Newsletter.
- Morris CL, Ling LJ: State of the art poison centers in Minnesota. Minnesota Medicine, 7(11), Nov 1988, 698-9,706.
- Morris CL, Sullman S: Levothyroxine therapy for thyroid nodules. Yale New Haven Hospital Drug Information Bulletin, 14 (30), Jul 24, 1987.
- Morris CL, Sullman S: New uses for cyclosporin: immunosuppressant therapy of myasthenia gravis. Yale New Haven Hospital-Drug Information Bulletin, 14(32), Aug 7, 1987.
- Morris CL: Drug interactions: succinylcholine and esmolol. Pharmacy Bulletin for Nurses Yale New Haven Hospital 7(8), Aug 1987.

TESTIMONY (last 4 years only)

State of Maryland v. Donald Mitchell Jr.

Hagerstown, MD 2022

Subject Matter: Drug Facilitated Crimes

US v. Michael Pepe Los Angeles, CA 2021

Subject Matter: Drug Facilitated Crimes